

Low Voltage Track System Module ML26-RS40-24W-940-18



Light Output Ratio:	100.0%	
Luminaire Power:	23.33 W	
SHR Nominal:	0.00	Calculated using the TM5
SHR Maximum:	1.00	fine grid method.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jason  
Test Date: 2020-05-18

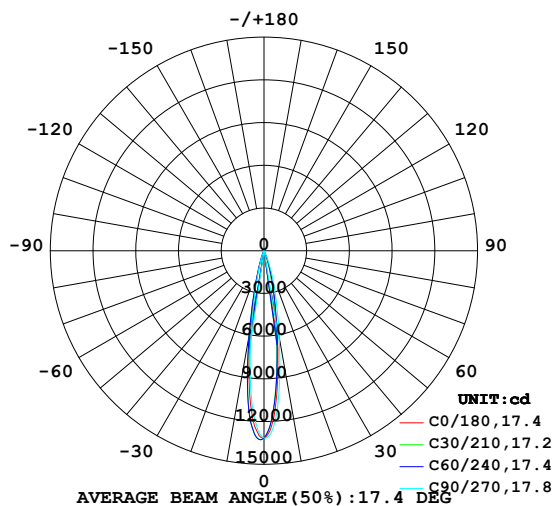
γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

**LUMINAIRE PHOTOMETRIC TEST REPORT**

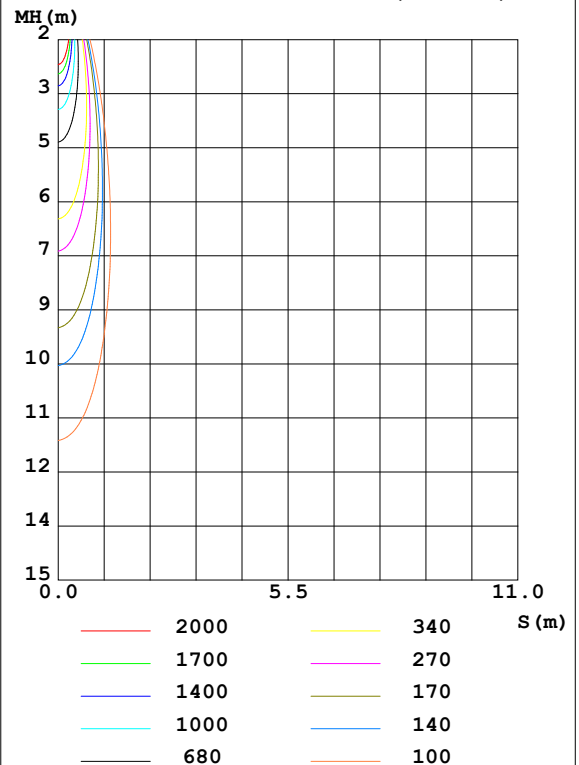
Test:U:48.00V I:0.4860A P:23.33W PF:1.000 Freq:0Hz Lamp Flux:1620x1 lm		
NAME: ML26-RS40-24W-940-18	TYPE:Low Voltage Track System Module	
SPEC.:4000K	DIM.: $\phi$ 40mm*H105mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 69.44 lm/W			
MODEL	CITIZEN-4000K	I <sub>max</sub> (cd)	14012	S/MH (C0/180)	0.31
NOMINAL POWER (W)	24	LOR (%)	100.0	S/MH (C90/270)	0.28
RATED VOLTAGE (V)	48	TOTAL FLUX (lm)	1620.0	$\eta$ UP,DN (C0-180)	0.0,56.3
NOMINAL FLUX (lm)	1620	CIE CLASS	DIRECT	$\eta$ UP,DN (C180-360)	0.0,43.7
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	48	$\eta$ down (%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-05-18

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### ZONAL FLUX DIAGRAM

#### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	509.9	481.6	620.0	832.8	547.0	597.3	476.0	311.1	0- 10	834.0	834.0	51.5, 51.5
20	58.74	75.83	127.7	142.3	56.20	68.01	56.09	33.10	10- 20	633.9	1468	90.6, 90.6
30	5.776	5.898	9.281	12.43	6.192	8.034	5.893	4.422	20- 30	126.9	1595	98.4, 98.4
40	0.9895	0.9937	1.166	1.868	1.168	1.362	1.008	0.8713	30- 40	19.46	1614	99.6, 99.6
50	0.1679	0.1495	0.2048	0.4319	0.2315	0.2821	0.2134	0.1481	40- 50	4.470	1619	99.9, 99.9
60	0.0304	0.0241	0.0357	0.0668	0.0425	0.0540	0.0345	0.0239	50- 60	0.9576	1620	100, 100
70	0.0093	0.0062	0.0105	0.0147	0.0093	0.0121	0.0063	0.0072	60- 70	0.1944	1620	100, 100
80	0.0061	0.0056	0.0063	0.0067	0.0047	0.0056	0.0043	0.0051	70- 80	0.0730	1620	100, 100
90	0.0059	0.0056	0.0057	0.0067	0.0047	0.0046	0.0043	0.0048	80- 90	0.0587	1620	100, 100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY: $\times 10 \text{cd}$									UNIT: lm		

Conical surface Flux(90deg): 1617.3 lm

%lum = 99.8%

%lamp = 99.8%

Conical surface Flux(120deg): 1619.7 lm

%lum = 100.0%

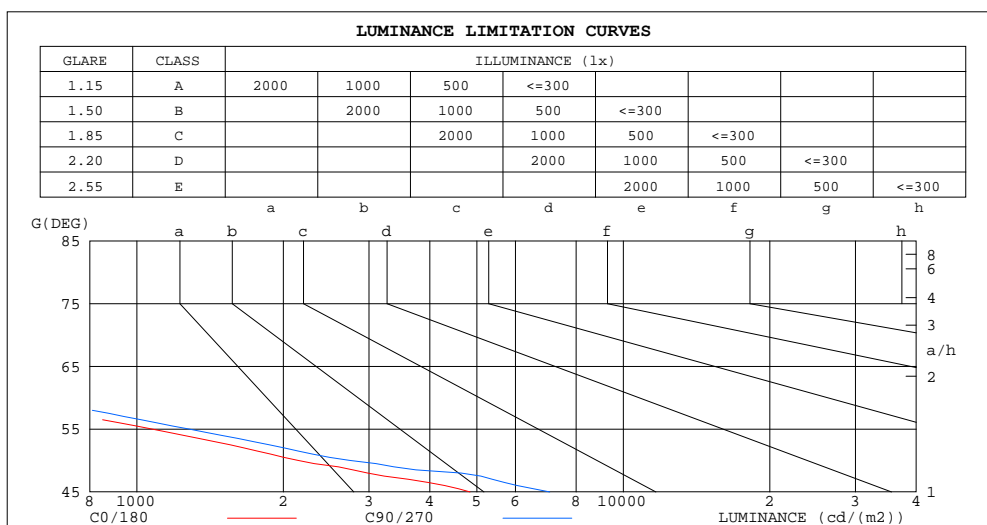
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Temperature: 25.3DEG  
Operators: Jason  
Test Date: 2020-05-18

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### LUMINANCE LIMITATION CURVES

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SPEC.:4000K	DIM.: $\phi$ 40mm*H105mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	559	579
80	291	311
75	222	256
70	224	265
65	285	363
60	499	614
55	1074	1280
50	2144	2740
45	4840	7057

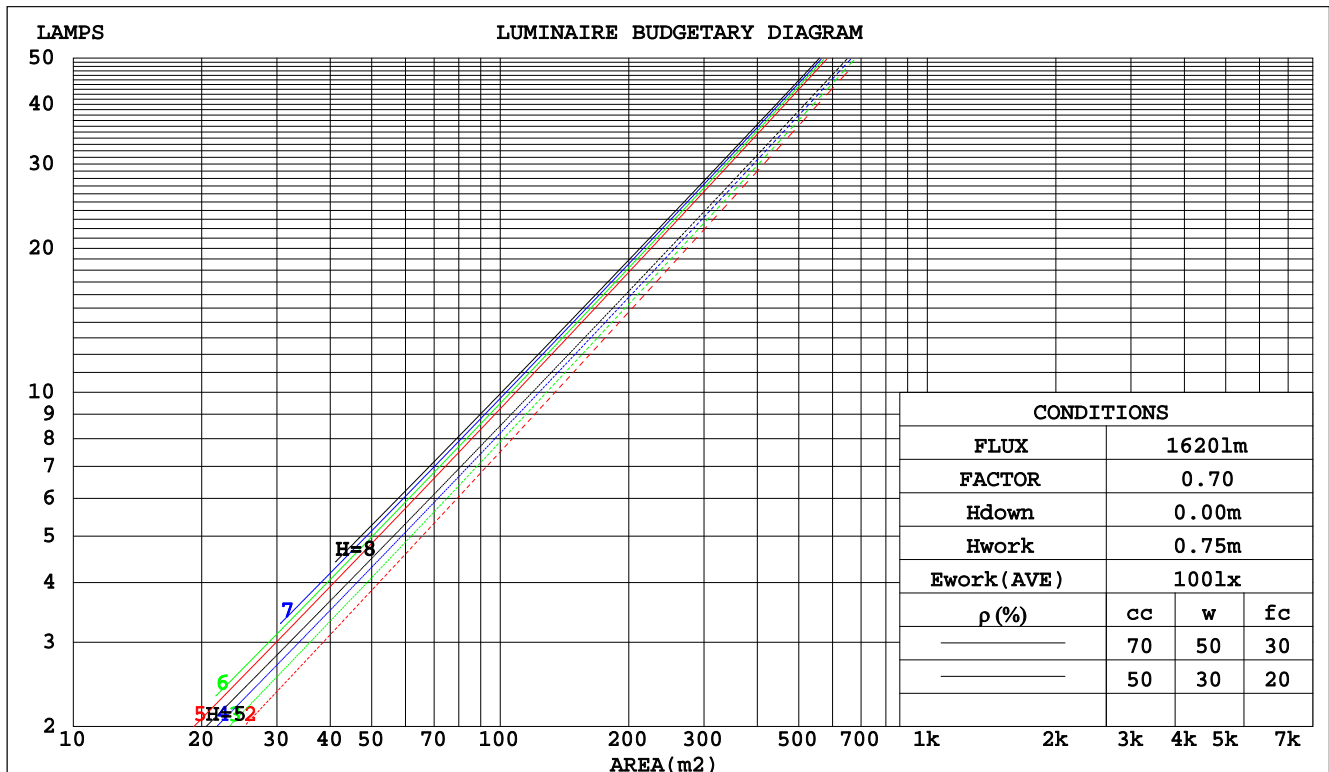
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**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:48.00V I:0.4860A P:23.33W PF:1.000 Freq:0Hz Lamp Flux:1620x1 lm		
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SPEC.:4000K	DIM.: $\phi 40\text{mm} \times H105\text{mm}$	
MFR.: NEKO LIGHTING AG		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.14	1.12	1.10	1.12	1.10	1.09	1.08	1.06	1.05	1.04	1.03	1.02	1.01	.00	.99	.98
2.0	1.09	1.07	1.04	1.08	1.05	1.03	1.05	1.03	1.01	1.02	1.00	.99	.99	.98	.97	.96
3.0	1.05	1.02	.00	1.04	1.01	.99	1.02	.99	.98	.00	.98	.96	.97	.96	.95	.94
4.0	1.02	.99	.96	1.01	.98	.96	.99	.97	.95	.98	.95	.94	.96	.94	.93	.92
5.0	.99	.96	.93	.99	.95	.93	.97	.94	.92	.96	.93	.91	.94	.92	.91	.90
6.0	.97	.93	.91	.96	.93	.91	.95	.92	.90	.94	.91	.89	.93	.91	.89	.88
7.0	.95	.91	.89	.94	.91	.88	.93	.90	.88	.92	.89	.88	.91	.89	.87	.86
8.0	.92	.89	.87	.92	.89	.86	.91	.88	.86	.90	.88	.86	.90	.87	.86	.85
9.0	.91	.87	.85	.90	.87	.85	.89	.87	.85	.89	.86	.84	.88	.86	.84	.83
10.0	.89	.85	.83	.88	.85	.83	.88	.85	.83	.87	.85	.83	.87	.84	.83	.82



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## WEC AND CCEC

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pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.122	.069	.022	.115	.066	.021	.103	.059	.019	.092	.053	.017	.081	.047	.015		
2.0	.111	.061	.019	.106	.058	.018	.096	.053	.017	.087	.049	.015	.078	.044	.014		
3.0	.103	.055	.016	.098	.053	.016	.090	.049	.015	.082	.045	.014	.075	.042	.013		
4.0	.095	.049	.015	.092	.048	.014	.085	.045	.013	.078	.042	.013	.072	.039	.012		
5.0	.089	.045	.013	.086	.044	.013	.080	.042	.012	.075	.039	.012	.069	.037	.011		
6.0	.084	.042	.012	.081	.041	.012	.076	.039	.011	.071	.037	.011	.067	.035	.010		
7.0	.079	.039	.011	.077	.038	.011	.072	.037	.011	.068	.035	.010	.065	.034	.010		
8.0	.075	.037	.010	.073	.036	.010	.069	.035	.010	.066	.033	.010	.062	.032	.009		
9.0	.071	.034	.010	.070	.034	.010	.066	.033	.009	.063	.032	.009	.060	.031	.009		
10.0	.068	.033	.009	.066	.032	.009	.064	.031	.009	.061	.030	.009	.058	.029	.008		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.167	.158	.149	.143	.135	.128	.098	.093	.089	.056	.054	.052	.018	.017	.017	
2.0	.148	.133	.120	.127	.114	.104	.087	.079	.072	.050	.046	.042	.016	.015	.014	
3.0	.132	.113	.098	.113	.098	.085	.078	.068	.060	.045	.040	.035	.014	.013	.012	
4.0	.119	.098	.081	.102	.084	.071	.070	.059	.050	.041	.034	.029	.013	.011	.010	
5.0	.108	.085	.068	.092	.074	.059	.064	.051	.042	.037	.030	.025	.012	.010	.008	
6.0	.098	.075	.058	.084	.065	.050	.058	.045	.036	.034	.027	.021	.011	.009	.007	
7.0	.090	.066	.050	.078	.057	.043	.054	.040	.031	.031	.024	.018	.010	.008	.006	
8.0	.083	.059	.043	.072	.051	.037	.050	.036	.026	.029	.021	.016	.009	.007	.005	
9.0	.077	.053	.037	.067	.046	.033	.046	.033	.023	.027	.019	.014	.009	.006	.005	
10.0	.072	.049	.033	.062	.042	.029	.043	.030	.020	.025	.018	.012	.008	.006	.004	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
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 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:48.00V I:0.4860A P:23.33W PF:1.000 Freq:0Hz Lamp Flux:1620x1 lm										
NAME: ML26-RS40-24W-940-18					TYPE:Low Voltage Track System Module					
SPEC.:4000K					DIM.: $\phi$ 40mm*H105mm					
MFR.: NEKO LIGHTING AG										
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	2.1	2.6	2.3	2.8	2.9	3.6	4.1	3.8	4.3	4.4
3H	2.0	2.5	2.2	2.6	2.8	3.5	4.0	3.7	4.2	4.3
4H	1.9	2.4	2.1	2.6	2.8	3.4	3.9	3.6	4.1	4.3
6H	1.8	2.3	2.1	2.5	2.7	3.3	3.8	3.6	4.0	4.2
8H	1.8	2.2	2.1	2.5	2.7	3.3	3.7	3.6	4.0	4.2
12H	1.7	2.2	2.0	2.4	2.7	3.2	3.7	3.5	3.9	4.2
4H 2H	1.9	2.4	2.1	2.6	2.8	3.4	3.9	3.6	4.1	4.3
3H	1.7	2.2	2.0	2.4	2.7	3.2	3.7	3.5	3.9	4.2
4H	1.6	2.0	2.0	2.3	2.6	3.1	3.5	3.5	3.8	4.1
6H	1.5	1.9	1.9	2.2	2.5	3.0	3.4	3.4	3.7	4.1
8H	1.5	1.8	1.9	2.2	2.5	3.0	3.3	3.4	3.7	4.0
12H	1.4	1.7	1.8	2.1	2.5	2.9	3.2	3.3	3.6	4.0
8H 4H	1.5	1.8	1.8	2.1	2.5	3.0	3.3	3.4	3.7	4.0
6H	1.4	1.6	1.8	2.0	2.4	2.9	3.1	3.3	3.5	3.9
8H	1.3	1.6	1.8	2.0	2.4	2.8	3.1	3.2	3.5	3.9
12H	1.3	1.5	1.7	1.9	2.4	2.8	3.0	3.2	3.4	3.9
12H 4H	1.4	1.7	1.8	2.1	2.5	2.9	3.2	3.3	3.6	4.0
6H	1.3	1.5	1.7	2.0	2.4	2.8	3.1	3.2	3.5	3.9
8H	1.2	1.5	1.7	1.9	2.4	2.7	3.0	3.2	3.4	3.9
Variations with the observer position at spacings:										
S = 1.0H	+ 3.4 / -11.5					+ 3.4 / -11.9				
1.5H	+ 5.6 / - 9.9					+ 5.5 / -10.5				
2.0H	+ 6.6 / - 7.1					+ 7.8 / - 8.2				

CIE Pub.117, 1620 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 1.7$ )

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### UTILIZATION FACTORS TABLE

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REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	86	82	91	86	82	90	85	82	79
0.80	98	93	90	98	93	90	97	92	89	86
1.00	102	97	94	101	97	94	100	96	93	89
1.25	105	101	98	104	100	97	103	99	97	93
1.50	108	104	101	107	103	100	105	101	99	95
2.00	110	106	103	109	105	103	106	103	101	96
2.50	111	108	105	110	107	104	107	104	103	97
3.00	113	110	107	111	108	106	108	106	104	98
4.00	115	112	110	113	111	109	109	107	106	99
5.00	116	114	112	114	112	111	110	109	108	100
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

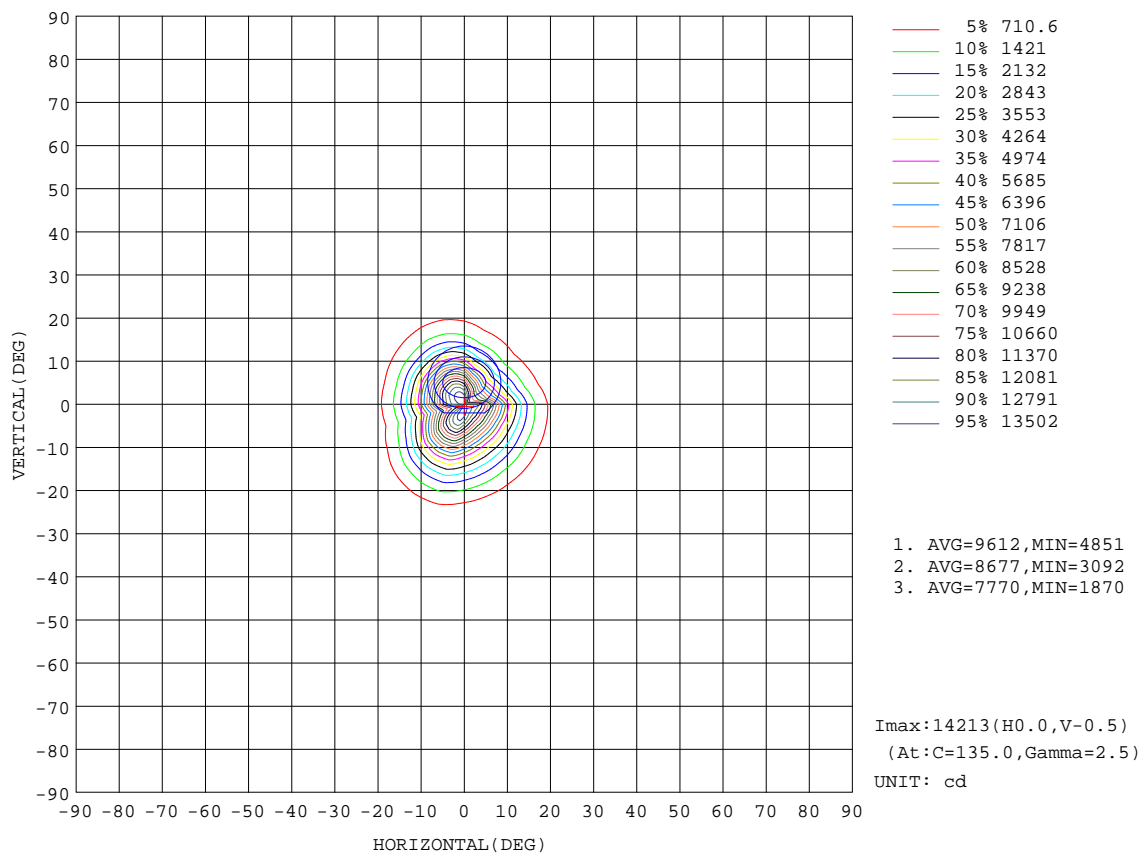
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ISOCANDELA DIAGRAM

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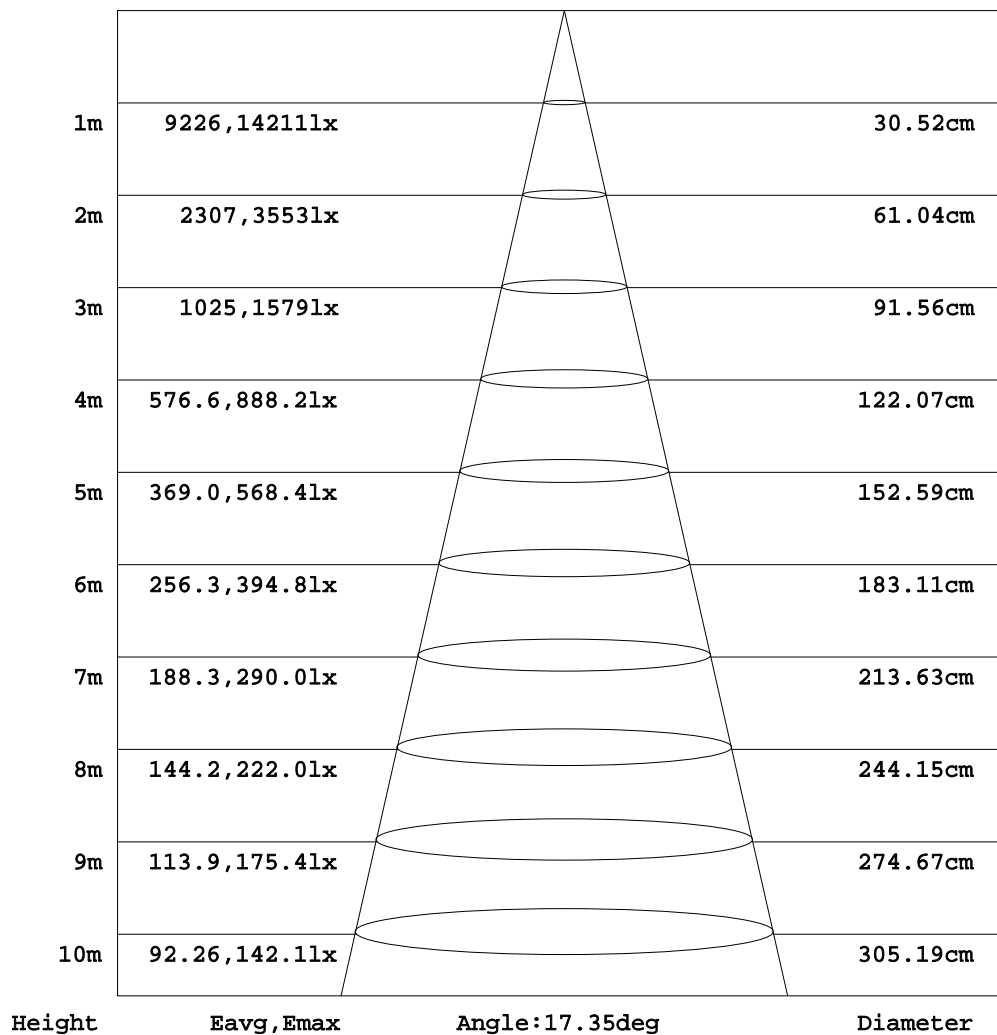
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**AAI Figure**

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Flux out:727.1 lm



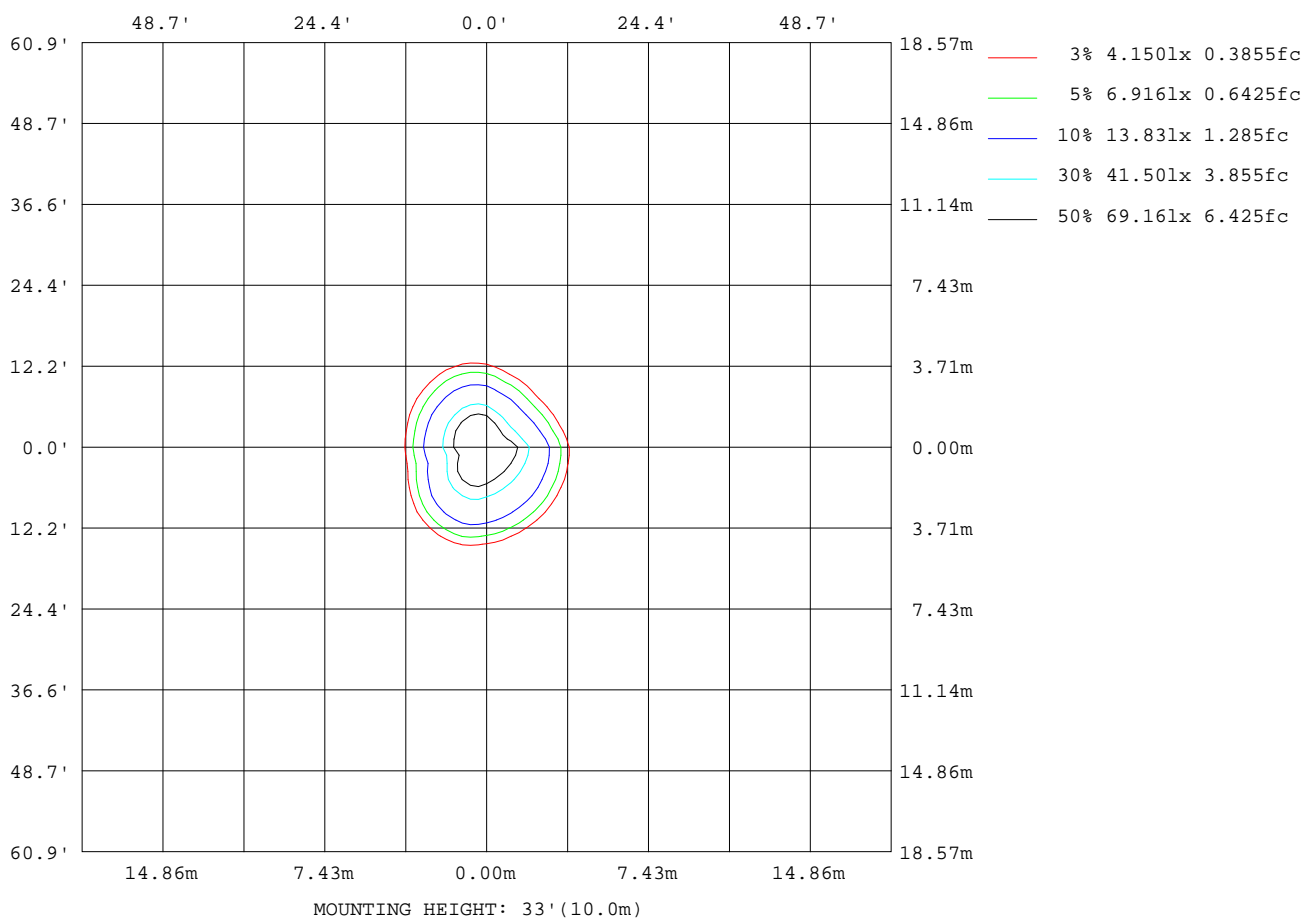
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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### LED Avg.L Report

Test:U:48.00V I:0.4860A P:23.33W PF:1.000 Freq:0Hz Lamp Flux:1620x1 lm		
NAME: ML26-RS40-24W-940-18	TYPE:Low Voltage Track System Module	
SPEC.:4000K	DIM.: $\phi$ 40mm*H105mm	
MFR.: NEKO LIGHTING AG		

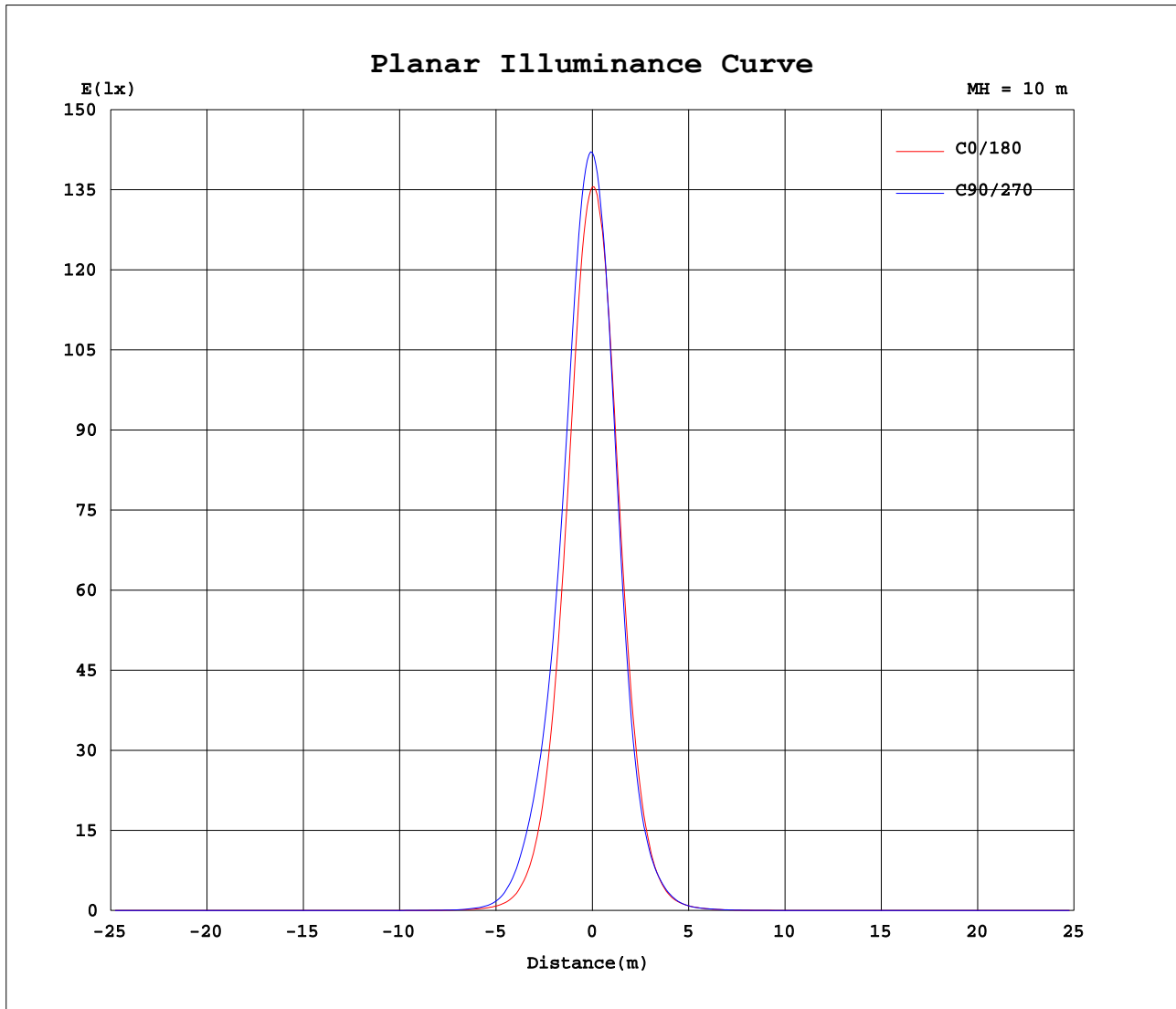
AvgL	cd/m2
L_0~180 (65) av	310
L_0~180 (75) av	196
L_0~180 (85) av	484
L_90~270 (65) av	296
L_90~270 (75) av	184
L_90~270 (85) av	462
L_45 (65) av	351
L_45 (75) av	212
L_45 (85) av	502

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-05-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jason  
Test Date: 2020-05-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

```